

Potentially Harmful Algal Blooms identified in several more Kentucky lakes

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Division of Water advises lake visitors to make informed decisions

The Kentucky Division of Water (DOW) and the U.S. Army Corps of Engineers (USACE) have confirmed the presence of potentially harmful algal blooms (HABs), or cyanobacteria at levels exceeding recommended safety thresholds at several lakes in Kentucky, including McNeely Lake and Long Run Lake (Jefferson County), Reformatory Lake (Oldham County), Campbellsville City Reservoir (Taylor County), and General Butler State Park Lake (Carroll County).

In June, DOW released a similar advisory about harmful algal blooms at Barren River Lake, Nolin Reservoir, Green River Lake, Rough River Lake, Taylorsville Lake and Greenbriar Creek Reservoir (Montgomery County). On Aug. 1, 2014, DOW released an advisory for four additional lakes: Guist Creek Lake (Shelby County); Willisburg Lake (Washington County); Carpenters Lake (Davies County); and Beaver Lake (Anderson County). Advisories for all of these lakes and reservoirs are still in effect. Recent monitoring by the DOW confirmed the presence of potentially harmful algal blooms in the lakes identified above. In 2014, HABs have been identified in nine of 18 lakes where DOW has sampled for HABs.

The Department of Public Health, the Kentucky Department of Fish and Wildlife, the Department of Parks, and other stakeholders have been informed of these conditions.

These lakes remain open to the public. Visitors to these lakes are advised to be aware of the potential health issues and take precautions.

The following guidelines are recommended to avoid exposure to HABs:

- Direct contact with affected water, including swimming, wading, fishing, paddling, diving and water skiing may result in symptoms. It is advisable to avoid contact with water that has unusual color or where blue-green bacteria have been identified, even if the water appears to be clear.

- People who are prone to respiratory allergies or asthma should avoid areas with harmful algal blooms. Children may be particularly sensitive.
- If contact has been made with water containing blue-green algae, wash off with fresh water. In some cases, skin irritation will appear after prolonged exposure. If symptoms persist, consult your local health care provider.
- Fish fillets (not organs) may be consumed after the fillets have been rinsed in clean, non-lake water. It is advisable to wash any parts of your body that have come into contact with the fish.
- Prevent pets and livestock from coming into contact with HAB-infested waters.

Some cyanobacteria produce toxins that may be hazardous to animals and humans. Symptoms of exposure to harmful algae may include gastrointestinal symptoms such as stomach pain, nausea, vomiting and diarrhea; skin and eye irritation; and/or throat irritation or breathing difficulties.

If you are concerned that you have symptoms that are a result of exposure to HABs, please see your doctor and call your local health department.

DOW has been working with a number of agencies to develop an HAB testing protocol for Kentucky lakes as well as public notification procedures when HABs are identified at levels of concern.

Last year, USACE began monitoring USACE-owned lakes in Kentucky for the presence of cyanobacteria. At that time, the USACE identified excessive levels of cyanobacteria in several reservoirs, prompting USACE to issue public warnings to avoid or minimize human and animal contact with algae-infested waters. The DOW subsequently began monitoring several lakes in Kentucky and identified excessive levels of cyanobacteria in several lakes, which similarly prompted the DOW and USACE continue to monitor lakes in Kentucky. The DOW has developed a predictive model for identifying HAB conditions in Kentucky lakes using available satellite data. The DOW and USACE are working collaboratively to calibrate that model so that it may be used to inform the division of all lakes regardless of whether there is water quality data available from the lake.

Better known as blue-green algae, cyanobacteria occurs naturally in the environment. Environmental conditions, including excess phosphorus and nitrogen, sunny

conditions, warm temperatures and low-flow or low-water conditions — contribute to the rapid reproduction and spread of the algae in a waterbody. The more typical green algae, which are not harmful to humans or animals, come in many forms and may appear as underwater moss, stringy mats or floating scum.

Cyanobacteria, on the other hand, appear as slicks of opaque, bright-green paint, but closer inspection often reveals the grainy, sawdust-like appearance of individual colonies of bacteria. The color of the algae may also appear as red or brown.

Peter Goodmann, director of the DOW, said it is important to understand that the issuance of advisories are intended to educate potential users about the water bodies so that they may make informed decisions.

Public water systems depending on lakes for their raw water source should consider monitoring for the presence of HABs and adjust treatment of the water accordingly. Algal blooms are easily addressed through water treatment techniques, and the water produced from these sources is safe to drink.

The presence of excess nutrients in the waterbody can cause algal blooms. Proper management of nutrients from various sources of stormwater runoff in the watershed and proper treatment of nutrients in wastewater play a key role in managing algal blooms of all kinds. The Division of Water, with other federal and state agency partners and numerous stakeholder groups, is developing a Nutrient Reduction Strategy to address nutrient pollution problems in Kentucky.

For information on harmful algal blooms and updates on the levels at USACE lakes, visit: <http://www.lrl.usace.army.mil/Missions/CivilWorks/WaterInformation/HABs.aspx>

For more information on safe water recreation, visit: http://www.who.int/water_sanitation_health/bathing/srwe1/en/.